Application No. 09/473,638
Attorney Docket No. 15-IS-5286
Amendment dated September 1, 2004
Reply to Final Office Action of August 11, 2004

REMARKS AND ARGUMENTS

The present application includes claims 1, 3-8, 10-15 and 17-20. Claims 1, 3-8, 10-15 and 17-20 were rejected in the August 11, 2004 Office Action. Claims 1, 7 and 14 have been amended. Claims 4, 6, 11, 13, 18 and 20 have been canceled.

Claim 1 is amended to recite storing predetermined preprocessing functions applicable to the raw image data, where the predetermined preprocessing functions include at least one of a frequency preprocessing function and a contrast preprocessing function, the frequency preprocessing function including at least one of an RN, RE, and RT preprocessing parameter, the contrast preprocessing function including at least one of a GT, GA, GC, and GS preprocessing parameter.

Claim 1 is also amended to recite applying, at the image acquisition workstation, at least one and fewer than all of the preprocessing functions to the raw image data to form partially preprocessed raw image data and storing the partially preprocessed raw image data in the preprocessing database, where at least one of the preprocessing functions is subsequently applied to the partially preprocessed raw image data at a display workstation.

Claims 7 and 14 are amended to recite applying, at the image acquisition workstation, at least one and fewer than all of predetermined preprocessing functions to the raw image data to form partially preprocessed raw image data, where the

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predetermined preprocessing functions include at least one of a frequency preprocessing

function and a contrast preprocessing function, the frequency preprocessing function

including at least one of an RN, RE, and RT preprocessing parameter, the contrast

preprocessing function including at least one of a GT, GA, GC, and GS preprocessing

parameter. Claims 7 and 14 are also amended to recite transmitting the partially

preprocessed raw image data to a PACS network for storage in a preprocessing database,

where at least one of the preprocessing functions is subsequently applied to the partially

preprocessed raw image data at a display workstation.

Claims 1, 3, 5, 7, 8, 10, 12, 14, 15, 17, and 19 were rejected under 35 U.S.C. §

103(a) as being unpatentable in view of Huang, *PACS: Basic Principles and*

Applications.

Claims 4, 6, 11, 13, 18 and 20 were rejected under 35 U.S.C. § 103(a) as being

unpatentable over Huang in view of Takeo et al. (U.S. Patent No. 6,231,246).

Rejections under 35 U.S.C. § 103(a)

The Applicant next turns to the rejection of claims 1, 3, 5, 7, 8, 10, 12, 14, 15, 17,

and 19 under 35 U.S.C. § 103(a) as being unpatentable in view of Huang. Huang

discloses an image acquisition gateway computer that acquires images from different

imaging modalities (Huang, Ch. 8.1, page 199, lines 1-3). Once the raw image data is

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received at the acquisition computer, a sequential progression of processing functions are

applied to the raw image data to completely preprocess the raw image data (Huang, Ch.

8.8.1, pages 224-225).

In addition, the display workstations of Huang do not perform any preprocessing

of the image data. The only functions the display workstations perform is the processing

of the image data, which is differentiated from the preprocessing of the image data by

Huang (Huang, Ch. 12.3.1, page 320, paragraph 1).

In this way, Huang merely discloses two basic workstations - an acquisition

workstation and a display workstation (Huang, Ch. 8.1, page 199, lines 1-3; Ch. 12.3.1,

page 320, paragraph 1). The acquisition workstation acquires raw data and performs all

preprocessing of the image data (Huang, Ch. 8.8.1, pages 224-225). The display

workstation merely performs processing of the fully preprocessed image data, which is

differentiated from the preprocessing of image data (Huang, Ch. 12.3.1, page 320,

paragraph 1). Therefore, under Huang, image data is fully and completely preprocessed

at the acquisition workstation and no additional preprocessing occurs at the display

workstation.

However, Huang does not teach or suggest applying, at the image acquisition

workstation, at least one and fewer than all of the preprocessing functions to the raw

image data to form partially preprocessed raw image data and storing the partially

preprocessed raw image data in the preprocessing database, where at least one of the

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preprocessing functions is subsequently applied to the partially preprocessed raw image

data at a display workstation, as recited in claim 1.

Huang also fails to teach or suggest storing predetermined preprocessing

functions applicable to the raw image data, where the predetermined preprocessing

functions include at least one of a frequency preprocessing function and a contrast

preprocessing function, the frequency preprocessing function including at least one of an

RN, RE, and RT preprocessing parameter, the contrast preprocessing function including

at least one of a GT, GA, GC, and GS preprocessing parameter, also as recited in claim 1.

Huang also does not teach or suggest 1) applying, at the image acquisition

workstation, at least one and fewer than all of predetermined preprocessing functions to

the raw image data to form partially preprocessed raw image data (where the

predetermined preprocessing functions include at least one of a frequency preprocessing

function and a contrast preprocessing function, the frequency preprocessing function

including at least one of an RN, RE, and RT preprocessing parameter, the contrast

preprocessing function including at least one of a GT, GA, GC, and GS preprocessing

parameter) and 2) transmitting the partially preprocessed raw image data to a PACS

network for storage in a preprocessing database, where at least one of the preprocessing

functions is subsequently applied to the partially preprocessed raw image data at a

display workstation, as recited in claims 7 and 14.

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As described above, Huang discloses that all preprocessing of image data occurs

at the acquisition computer, and no preprocessing occurs at a display workstation (Huang,

Ch. 8.8.1, pages 224-225). While the image data may be "partially processed" at times

between sequential preprocessing steps occurring at the acquisition computer, at no time

after image data leaves the acquisition computer is additional preprocessing applied to the

image data (Huang, Ch. 12.3.1).

The present rejection encompasses claims 1, 3, 5, 7, 8, 10, 12, 14, 15, 17, and 19.

The Applicant respectfully submits that Huang does not teach or suggest elements of at

least claims 1, 7 and 14. Claims 3, 5, 8, 10, 12, 15, 17, and 19 depend from claims 1, 7

and 14. Therefore, the Applicant respectfully submits that claims 1, 3, 5, 7, 8, 10, 12, 14,

15, 17, and 19 should be allowable.

The Applicant next turns to the rejection of claims 4, 6, 11, 13, 18 and 20 under

35 U.S.C. § 103(a) as being unpatentable over Huang in view of Takeo. While claims 4,

6, 11, 13, 18 and 20 have been canceled,

Takeo describes a method and apparatus for reproducing an image via two image

reproducing devices wherein gradation and/or sharpness correction is performed for both

images reproducing devices. Specifically, Takeo describes a method and apparatus that

receives an image signal, applies a first processing condition to the image signal for

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display on a computer screen, applies a second processing condition to the image signal

for printing the image on film, stores these two processing conditions, displays the image

on the computer screen and prints the image on film (col. 5, lines 64-68; col. 6, lines 1-

31).

However, Takeo does not remedy the shortcomings of Huang, as described above.

Specifically, Takeo does not teach or suggest applying, at the image acquisition

workstation, at least one and fewer than all of the preprocessing functions to the raw

image data to form partially preprocessed raw image data and storing the partially

preprocessed raw image data in the preprocessing database, where at least one of the

preprocessing functions is subsequently applied to the partially preprocessed raw image

data at a display workstation, as recited in claim 1.

Takeo also does not teach or suggest 1) applying, at the image acquisition

workstation, at least one and fewer than all of predetermined preprocessing functions to

the raw image data to form partially preprocessed raw image data (where the

predetermined preprocessing functions include at least one of a frequency preprocessing

function and a contrast preprocessing function, the frequency preprocessing function

including at least one of an RN, RE, and RT preprocessing parameter, the contrast

preprocessing function including at least one of a GT, GA, GC, and GS preprocessing

parameter) and 2) transmitting the partially preprocessed raw image data to a PACS

network for storage in a preprocessing database, where at least one of the preprocessing

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functions is subsequently applied to the partially preprocessed raw image data at a

display workstation, as recited in claims 7 and 14.

Moreover, assuming for the sake of argument that one would be motivated to

combine Huang and Takeo, the combination would similarly fail to teach or suggest

elements of at least claims 1, 7 and 14. As stated above, neither Huang nor Takeo teach

or suggest applying, at the image acquisition workstation, at least one and fewer than all

of the preprocessing functions to the raw image data to form partially preprocessed raw

image data and storing the partially preprocessed raw image data in the preprocessing

database, where at least one of the preprocessing functions is subsequently applied to the

partially preprocessed raw image data at a display workstation, as recited in claim 1.

Similarly, as stated above, neither Huang nor Takeo teach or suggest 1) applying, at the

image acquisition workstation, at least one and fewer than all of predetermined

preprocessing functions to the raw image data to form partially preprocessed raw image

data (where the predetermined preprocessing functions include at least one of a frequency

preprocessing function and a contrast preprocessing function, the frequency

preprocessing function including at least one of an RN, RE, and RT preprocessing

parameter, the contrast preprocessing function including at least one of a GT, GA, GC,

and GS preprocessing parameter) and 2) transmitting the partially preprocessed raw

image data to a PACS network for storage in a preprocessing database, where at least one

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of the preprocessing functions is subsequently applied to the partially preprocessed raw image data at a display workstation, as recited in claims 7 and 14.

Therefore, as elements of at least claims 1, 7 and 14 are not taught or suggested by Huang and Takeo, alone or in combination, the Applicant respectfully submits that a combination of Huang and Takeo, fails to teach or suggest elements of at least claims 1, 7 and 14.

The present rejection encompasses claims 4, 6, 11, 13, 18 and 20. The Applicant respectfully submits that neither Huang nor Takeo, alone or in combination, teach or suggest elements of claims 1, 7 and 14. Claims 4, 6, 11, 13, 18 and 20 depend from claims 1, 7 and 14. Therefore, the Applicant respectfully submits that claims 4, 6, 11, 13, 18 and 20 should be allowable.

Therefore, the Applicant respectfully submits that the claims of the present application should be allowable over the prior art.

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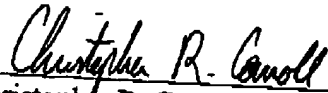Reply to Final Office Action of August 11, 2004

CONCLUSION

If the Examiner has any questions or the Applicant can be of any assistance, the Examiner is invited and encouraged to contact the Applicant at the number below.

The Commissioner is authorized to charge any necessary fees or credit any overpayment to the Deposit Account of GTC, Account No. 50-2401.

Respectfully submitted,

Date: _September 1, 2004_

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